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REMARKS

Reconsideration and allowance of this application, as amended, is respectfully requested.

This amendment is in response to the Office Action dated November 17, 2005. Appreciation is expressed to Examiner Michelle Crowell and her supervisory Mr. Parviz Hassanzadeh for their courtesy and helpfulness during a personal interview conducted in this matter on December 6, 2005. During the course of the interview, the amending of the claims in the manner presented by the present amendment was discussed to emphasize distinctions of the claims over the cited prior art from the Office Action. In addition, as discussed during the interview, a Declaration has been prepared to show the unexpected results obtained by the use of silicon for the discharge confining means. Accordingly, entry of this amendment and the Declaration, and consideration and allowance of the amended claims is respectfully requested.

More specifically, reconsideration and removal of the prior art rejections of the pending claims over the references to Lenz (USP 5,534,751) Ohmi (USP 5,272,417), Steger (USP 5,494,523) and Ogasawara (JP 07-135200) is respectfully requested. As discussed during the interview, and in the attached Declaration by Dr. Tachi, each of the independent claims has been amended to particularly specify that the discharge confining means "is made of silicon." This corresponds to the discussion on page 40, line 8 et seq. indicating that the discharge confining means, indicated by the numeral 37 in Figure 1, is made of silicon, carbon, or SiC. One advantage of this, is discussed on page 40, line 10 et seq., is that this assists the discharge confining ring 37 in decreasing the amount of deposits on the ring and also in the

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removal of fluorine. In addition, as particularly noted in Dr. Tachi's Declaration, the fact that these materials (that is, silicon, carbon or SiC) are free of oxygen is a great benefit because, unlike material such as quartz or silicon taught by the cited prior art, these materials will not release oxygen into the plasma. For example, as discussed in the Declaration, the discharge confining means becomes a type of floating electrode during the operation of the plasma apparatus. As such, the discharge confining means itself tends to be etched by the plasma. If this material contains silica or quartz, as is the case in the cited prior art such as the Lenz patent, the oxygen will undesirably be released into the plasma itself. This tends to deteriorate the plasma and significantly reduce the etching effect of this of the device.

As also noted in the Declaration by Dr. Tachi the use of silicon as the discharge confining means has not only an advantage over material such as quartz and silica, but also over materials such as carbon and SiC. In particular, even though carbon and SiC have the above noted advantage over silica and quartz (that is, not releasing oxygen into the plasma) the etching of these materials will release carbon into the plasma. Although this is not nearly as destructive as the release of oxygen, Applicants studies have shown that constructing the discharge confining means of silicon, without either carbon or oxygen, means that the discharge confining means itself is made of the same material as the wafer being etched. As such, the etching of the discharge confining means during the plasma processing of the wafer will not release any other materials into the plasma which could potentially effect the etching efficiency.

As discussed during the interview, none of the cited references teach or suggest a discharge confining means which is "made of silicon." Instead, these

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references, including the Lenz patent teach, at best, the use of quartz or silicon. Both quartz and silica contain oxygen, and, as such, separate from the deterioration of the plasma noted in Dr. Tachi's Declaration. Accordingly, it is respectfully submitted that all of the pending claims 8-25, 27 and 28 clearly define over the cited prior art from the Office Action, and, accordingly, reconsideration and allowance of this application, as amended, is respectfully requested.

In addition to the above amendments to the independent claims, it is noted that claim 25 has been amended to overcome the 35 U.S.C. §112 rejection set forth in paragraph 7 and 8 of the Office Action. Accordingly, reconsideration and removal of the this rejection is also respectfully requested.

If the Examiner believes that there is a manner which can be clarified or otherwise disposed of by way of either a personal or telephone interview, she is invited to contact Applicants' undersigned attorney at the number indicated below.

To the extent necessary, Applicants petition for an extension of time under 37 CFR 1.136. Please charge any shortage in fees due in connection with the filing of this paper, including extension of time fees, to the Antonelli, Terry, Stout & Kraus, LLP Deposit Account No. 01-2135 (Docket No. 520.35237CV4), and please credit any excess fees to such Deposit Account.

Respectfully submitted,  
**ANTONELLI, TERRY, STOUT & KRAUS, LLP**

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